

Combating 'Doubt Mongers' with Science's Social Character—A Review of 'Why Trust Science?'

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Why Trust Science by Naomi Oreskes how do we know contemporary climate change is caused by human activity? How do we know vaccines don't cause autism? And how do we know the earth isn't flat?

In *Why Trust Science?* (Princeton University Press, 2019), historian of science and author Naomi Oreskes tackles a seemingly simple question: if scientific theories are always being revised and updated, why and when should we trust any particular scientific claim?

Oreskes' previous book, *Merchants of Doubt* (Bloomsbury, 2011), co-authored with Erik Conway, exposed the ideological and economic motivations behind the denial of scientific studies. *Why Trust Science?* Takes a more academic and philosophical approach, exploring how the mechanisms of verification, experimentation, and peer review are practiced and why we have good reason to trust settled scientific claims.

Why Trust Science? Is a critical dialogue. Mirroring the scientific enterprise itself, it begins with a lucid and well-researched argument, followed by responses from professional experts and peers, and concludes with a wide-ranging reply by Oreskes to her critics' main points.

Oreskes also provides a longer historical view, pointing out that the "history of science offers many examples of scientific 'truths' that were later viewed as misconceptions." So, she asks, how are we to evaluate scientific claims that might be overturned in the future? And to what extent should we trust science?

Traditionally, we might trust science because it employs a single, infallible method, because scientific claims come from an authoritative and credible individual, or because it is simply good at making predictions about the empirical world. The history of science suggests otherwise: scientists employ a broad range of methods that evolve over time, and scientists themselves are imperfect people who are subject to errors and social blind spots. Instead, Oreskes claims that science is best thought of as a "fundamentally consensual" and collective endeavor in which knowledge is produced through scientific consensus, and it is science's social character that makes it trustworthy:

Much of what we identify as 'science' are social practices and procedures of adjudication designed to ensure—or at least to attempt to increase the odds—that the process of review and correction are sufficiently robust as to lead to empirically reliable results.

With thanks and respect